

California Halibut (*Paralichthys californicus*)

Status of the Population:

Abundance of larval California halibut in plankton surveys is correlated with commercial landings of halibut, suggesting that this species has a cycle of abundance approximately 20 years in length (Moser and Watson 1990). However, the size of the halibut population may be limited by the amount of available nursery habitat, as juvenile halibut appear to be dependent on shallow water bays as nursery areas. The overall decline in California halibut landings corresponds to a decline in shallow water habitats in southern California associated with dredging and filling of bays and wetlands (Kramer and Sunada 1992). The total California biomass of the halibut resource obtained from virtual population analysis (VPA) estimate in the late 1980s was 5.7 to 13.2 million pounds, with annual recruitment of fish at age one estimated to be between 0.45 and 1.0 million fish (Reed and MacCall 1988). The number of juvenile halibut emigrating from southern California bays to the open coast (age one) estimated from beam trawl surveys ranged between 250,000 and 400,000 in the late 1980s (Kramer 1990 and 1991). In the early 1990s, a swept-area trawl survey was conducted by the Department to better understand California halibut population dynamics. This fishery-independent survey produced a biomass and population estimate for halibut in southern and central California. The survey results indicated a halibut biomass of 6.9 million pounds for southern California and 2.3 million pounds for central California, while the population estimate was 3.9 million halibut for southern California, and 700,000 halibut for central California (Wertz 2001).

Home Range/Migratory Patterns:

California halibut are found in nearshore waters on the west coast of North America from Almejas Bay, Baja California Sur (Oda 1991), to the Quillayute River, Washington (Eschmeyer et al. 1983). They are most common south of Morro Bay, California (Fitch and Lavenberg 1971), with their distribution centered off northern Baja California (Moser and Watson 1990).

Bays and estuaries are thought to be nursery grounds for juvenile halibut less than eight inches, because they provide optimal habitat for growth and survival (Allen 1988; Allen and Herbinson 1990; Kramer 1990, 1991). The eventual migration of juvenile halibut greater than eight inches from bays to the open coast has been suggested to be the first significant movement of California halibut (Domeier and Chun 1995).

Halibut living in open coastal waters are associated with soft bottoms, sand dollar beds, kelp beds, and rocky relief extending offshore from the surf zone to 183 meters (Feder et al. 1974; Eschmeyer et al. 1983), although they are typically more abundant

in waters less than 15 fathoms (Kramer and Sunada 1992; California Department Unpublished data).

Over the past four decades the Department has conducted extensive tag and release studies of California halibut. Tagging effort ranged geographically from Sebastian Vizcaino Bay, Baja California, north to Tomales Bay, California, with the primary effort centered between Oceanside and Point Conception (Young 1961; Domeier and Chun 1995). Results showed that halibut less than 20 inches remained relatively localized and traveled less than 2 miles, although halibut greater than 20 inches traveled greater distances. The average overall distance traveled was eight miles during the study period. Their results also indicated halibut movement was parallel to the coastline, and northward migrations were of significantly greater distances when compared to halibut traveling southward. However, tagged halibut recaptures south of the international boundary with Mexico may have gone unreported, limiting our knowledge of southward migrations.

Current Commercial Regulations:

Three principal gears are used to commercially catch California halibut: bottom trawl, set gill and trammel net, and hook-and-line. In general, commercial fishing regulations prohibit the sale of California halibut less than 22 inches total length, unless the weight is at least four pounds whole, 3.5 pounds dressed with the head on, or 3 pounds dressed with head off.

Bottom trawling is prohibited within the State's jurisdictional waters (0-3 nautical miles), except in the designated "California halibut trawl grounds," which encompass the area between Point Arguello and Point Mugu in waters greater than one nautical mile from shore. Trawls used in this area must have a minimum mesh size of 7.5 inches, and trawling is prohibited from March 15 to June 15, to protect spawning adults.

Set gill and trammel nets are prohibited within the States jurisdictional waters (0-3 nautical miles) in southern California from Point Arguello to the Mexican border, and in waters less than 70 fathoms or within one nautical mile, whichever is less, around the Channel Islands, including San Miguel, Santa Rosa, Santa Cruz, Anacapa, San Nicolas, Santa Barbra, Catalina Island, and San Clemente Island. North of Point Arguello, depth restrictions on set gill nets varies by district. In a recent action by the Department to protect sea otters and seabirds, gill and trammel nets were prohibited from Point Arguello (Santa Barbara County) to Point Reyes (Marine County) in 60 fathoms or less. The minimum mesh size to take halibut is 8.5 inches.

No commercial hook-and-line gear may be used to take halibut in Fish and Game District 16 (waters south of a line drawn from Pt. Pinos, Monterey Bay, 100 degrees magnetic to the eastern shore), and no more than 30 hooks may be used per troll line to take California halibut in Districts 6, 7, and 10 (ocean waters from the Oregon border to Pigeon Pt.).

Current Recreational Regulations:

Recreational regulations also require a minimum size limit of 22 inches total length, in addition to a daily bag limit of five California halibut south of a line due west magnetic from Point Sur, Monterey County, and only three halibut per day when fishing north of a line due west magnetic from Point Sur, Monterey County. Fillets must be a minimum of 16-3/4 inches in length and must bear the entire skin intact. Halibut can be taken using hook-and-line, spear, or hand.

How MPAs May Help:

Current management measures for California halibut appear to be maintaining a sustainable fishery according to market receipt information, CPFV logbook data, and Recreational Fishery Information Network (RecFIN) data. However, marine reserves that encompass bays, estuaries, and lagoons would protect juvenile halibut and the habitat they require for growth and survival. Also, relatively narrow reserves that are positioned adjacent to the coastline out to 30 fathoms would protect the adult spawning population in southern California from increased fishing pressure from private boat owners and commercial hook-and-line fishermen.